

biaxially textured buffer layer of MgO and further layers of YSZ and CeO<sub>2</sub> beneath a YBCO film. The beta angle tilt was 22 or 32 degrees. See page 313. Accordingly, claims 1-4 are anticipated structure in the Examiner's opinion.

The applicants, and specifically Dr. Balachandran, respectfully disagree with the Examiner and submits that he has misapprehended the nature of the invention.

The present invention relates to a configuration of a superconductor such as, but not limited to YBCO, in which the c-axis is normal to the substrate plane, that is the beta angle is zero for the superconductor. In the present invention a MgO layer, which is the biaxially textured magnesium oxide crystalline layer, has the c-axis thereof inclined with respect to the plane of the substrate but the superconductor has the c-axis normal to the substrate and therefore, is at a zero beta angle. In the Balachandran reference relied on by the Examiner, what is reported is the YBCO with a tilted c-axis, that is the YBCO has a non-zero beta angle of between 20-35° grown on a c-axis tilted MgO layer.

Therefore, the reference cited by the Examiner, has both the MgO layer and the superconductor layer with tilted c-axes, whereas in the present invention as set forth in all of the claims, the MgO crystalline layer has the c-axis inclined with respect to the substrate but the crystalline superconductor layer has a beta angle of zero or in other words has the c-axis normal to the substrate.

This is a major difference and is the basis for the invention set forth in and claimed in the present invention.

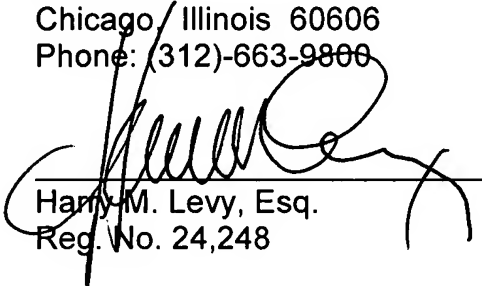
As will be noted by the Examiner, each of the independent claims rejected by the Examiner, those being claims 1 and 13 require that the biaxially textured MgO crystalline layer has the c-axis thereof inclined with respect to the normal of the substrate, whereas the crystalline superconductor layer has the c-axis thereof normal to the substrate or at a zero beta angle. This construction is not shown nor suggested in the Balachandran et al. reference; nor is it shown in any of the allegedly relevant art relied on by the Examiner. Accordingly, the rejection under 35 U.S.C. §102(b) must be withdrawn.

For the foregoing reasons, it is respectfully suggested that each of claims 1-4, 13 and 17 is directed to patentable subject matter and the allowance thereof is requested.

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Respectfully submitted,

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